Claims

1. Method of representing a predeterminable region (3) in multidimensional data sets (2), wherein the data sets (2) consist of in particular three- or four-dimensional image data of an object to be examined, wherein the image data are generated by means of one or more images of the object, and wherein at least one in particular two-dimensional section (S) is made through the predeterminable region (3) and is displayed, characterised in that the section (S) is defined by at least one vector plane (E1, E2), which lies in the multidimensional data set (2), in that the at least one vector plane (E1, E2) is fixed by means of a vector (4), and in that the vector (4) is fixed in the multidimensional data set (2) and/or on in particular two-dimensional planes of section (S1, S2) through the multidimensional data set (2).

2. Method according to claim 1, characterised in that the vector or vector (4) is a direction vector adapted to the multidimensional data set (2) with a specifiable orientation and/or a specifiable length which spans the predeterminable region (3).

3. Method according to claim 2, characterised in that the vector (4) is fixed on a first two-dimensional plane of section (S1) by specifying the orientation and length and in that the vector so fixed is copied on to a second plane of

section (S2), preferably non-parallel to the first plane of section (S1), and is optionally corrected thereon.

4. Method according to one of the preceding claims, characterised in that the at least one vector plane or vector plane (E1, E2) is fixed by the start point (5) and/or end point (6) of the vector (4) and the vector (4) is positioned orthogonally on the vector plane (E1, E2).

5. Method according to claim 4, characterised in that a first vector plane (E1) is fixed by the start point (5) and a second vector plane (E2) parallel to the first vector plane (E1) is fixed by the end point (6) of the vector (4) and in that the vector (4) is positioned orthogonally on both vector planes (E1, E2).

6. Method according to one of the preceding claims, characterised in that the direction of the vector (4) is oriented from the start point (5) to the end point (6), in that the section (S) is defined by a vector plane (E1, E2) positioned perpendicular to the vector (4), and in that the representation of the predeterminable region (3) is effected by means of the section (S) by displacing the vector plane (E1, E2) successively from the start point (5) to the end point (6).

7. Method according to one of the preceding claims, characterised in that the multidimensional data set (2) is cut off at the vector planes (E1, E2) by the blanking out of corresponding image data and only those image data are shown multidimensionally which lie between the vector planes (E1, E2).

8. Apparatus for representing a predeterminable region (3) in multidimensional data sets (2), wherein the data sets (2) consist of in particular three- or four-dimensional image data of an object to be examined and wherein the image data are generated by means of one or more images of the object, comprising computing means for generating at least one in particular two-dimensional section (S) through the predeterminable region (3) and display means for displaying the section (S), characterised in that the section (S) is defined by at least one vector plane (E1, E2) which lies in the multidimensional data set (2), in that the at least one vector plane (E1, E2) is fixed by means of a vector (4), and in that the vector (4) may be manipulated and fixed by means of manipulation means in the multidimensional data set (2) and/or on in particular two-dimensional planes of section (S1, S2) through the multidimensional data set (2).

9. Apparatus according to claim 8, characterised in that the vector (4) may be displayed synchronously on a display of the multidimensional data set (2) and/or of the two-dimensional planes of section (S1, S2) and the direction and/or length and/or orientation of the vector (4) may be varied by means of the manipulation means.

10. Apparatus according to claim 9, characterised in that during manipulation of the vector (4) on a first plane of section (S1), the image of the vector (4) on a second plane of section (S2) may be represented and optionally manipulated thereon.

11.   Apparatus according to one of claims 7 to 10, characterised in that the vector (4) may be manipulated and copied multidimensionally in the multidimensional data set.